



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Martín de T. Pinto et al.

Application No.: 10/060,965

Filed: October 19, 2001

For: RECIRCULATING ANODE

Group Art Unit: To be assigned

Examiner: To be assigned

**PETITION TO MAKE SPECIAL**  
**UNDER 37 C.F.R. §1.102(c)**

Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

**INTRODUCTION**

This is a Petition to Make Special the above-identified patent application under 37 C.F.R. §1.102(c). This Petition is based on the Declaration of Jeffrey A. Colborn, the authorized representative of the Assignee, attached hereto as Exhibit A, the decisions on the petitions to


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CERTIFICATE OF MAILING  
(37 C.F.R. §1.8a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Commissioner for Patents, Washington, D.C. 20231.

March 15, 2002  
Date of Deposit

Diana Vilkaitis  
Name of Person Mailing Paper

  
Signature of Person Mailing Paper

make special for Assignee's related applications, attached hereto as Exhibit B, and the grounds set forth in 37 C.F.R. §1.102(c) and MPEP 708.02 V. and VI(B).

The Petition should be granted, and the application accorded special status, for three distinct reasons. First, as set forth in the Declaration, the application meets the criteria of MPEP 708.02 V. Second, as also set forth in the Declaration, the application meets the criteria of MPEP 708.02 VI(B). Third, a decision according the application special status is supported by the numerous decisions on petitions according special status to all of the related applications of the Assignee. These points are explained further as follows:

**I. THE APPLICATION MEETS THE CRITERIA OF MPEP 708.02**

As set forth in the attached Declaration, the application meets the criteria of MPEP 708.02 V for at least the following reasons:

1. By replacing polluting diesel generators as back-up power sources for buildings, the refuelable and/or regenerative fuel cell system relating to the invention is expected to materially enhance the quality of the environment by contributing to the restoration and maintenance of the air. (Decla. ¶2).

2. By replacing diesel generators, the refuelable and/or regenerative fuel cell system is also expected to eliminate the need for lubricating oil for diesel generators, and therefore materially enhance the quality of the environment by contributing to the restoration and maintenance of water. (Decla. ¶3).

3. By replacing lead/acid batteries, the refuelable and/or regenerative fuel cell system is also expected to materially enhance the quality of the environment by reducing the damage to the earth caused by the mining of lead, thereby contributing to the restoration and maintenance of the soil. (Decla. ¶4).

4. By enabling solar/wind power to replace power plants as the primary energy source for a substantial number of homes and businesses, the refuelable and/or regenerative fuel cell

system is expected to materially enhance the quality of the environment by contributing to the restoration or maintenance of the air. (Decla. ¶¶5-6).

5. By increasing the efficiency of the power grid, the refuelable and/or regenerative fuel cell system is expected to result in introduction of less pollutants into the air since less fossil fuel needs to be burned to provide the same power output. Consequently, the system is expected to materially enhance the quality of the environment by contributing to the restoration and maintenance of the air. (Decla. ¶¶7-10).

## **II. THE APPLICATION MEETS THE CRITERIA OF MPEP 708.02 VI(B)**

A second independent basis for according the application special status is that it meets the criteria of MPEP 708.02 VI(B). As set forth in the attached Declaration, the application meets these criteria for at least the following reasons:

1. The invention relates to a refuelable and/or regenerative fuel cell system in which a refuelable and/or regenerative fuel cell is interfaced to the power grid and to an energy controller in a home or business which controls one or more loads, e.g., elevators, lights, air conditioners, household appliances such as refrigerators, etc. During off-peak hours, when energy from the power grid is cheapest, the system may draw energy from the power grid in order to reprocess spent reaction solution and reaction products into metal fuel and fresh reaction solution. In addition, whenever energy is needed to drive the loads, the energy controller selectively draws energy from the refuelable and/or regenerative fuel cell to drive the one or more loads in an energy efficient manner. For example, the controller can automatically turn off lights and air conditioners during off-business hours and power them up again during business hours. The ability of the system to store energy in the form of the fuel allows the two processes--the process of reprocessing spent reaction products and the process of driving one or more loads--to be decoupled from one another, i.e., performed substantially independently of one another. (Decla. ¶7).

2. The system is expected to increase the efficiency of the power grid in terms of wattage out divided by quantity of fossil fuel burned. The reason is that the system, because of its capability to store energy in the form of electrochemical fuel, and to decouple the processes of reprocessing spent reaction products and driving loads, is expected to result in more frequent use of base load power plants and less frequent use of peaking plants to drive the power grid. Since base load plants are more efficient than peaking plants, e.g., 60 % vs. 35 %, the result is an overall increase in the efficiency of the power grid. (Decla. ¶8).

3. To explain why this is so, consider a scenario such as a hot day where the demand exceeds the supply for power from base load power plants. Currently, the response to this scenario will be to power up the less efficient peaking plants to fill the gap between demand and supply. However, with the refuelable and/or regenerative fuel cell system, the response to this scenario is expected to be the use of the refuelable and/or regenerative fuel cell to fill the gap between demand and supply. (Decla. ¶9).

4. The increased efficiency of the power grid means that the refuelable and/or regenerative fuel cell system is expected to materially contribute to the reduction of energy consumption in combustion systems, industrial equipment, household appliances, etc. (Decla. ¶11).

**III. A DECISION ACCORDING THE APPLICATION SPECIAL STATUS IS SUPPORTED BY THE NUMEROUS DECISIONS ACCORDING SPECIAL STATUS TO ASSIGNEE'S RELATED APPLICATIONS**

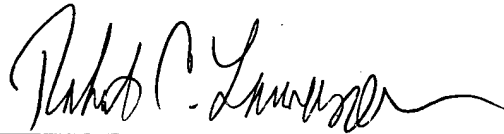
A decision according the application special status is also supported by the decisions according special status to all of Assignee's related applications. These related applications consist of U.S.S.N. 09/353,422 (now U.S. Patent No. 6,162,555); 09/449,176 (now U.S. Patent No. 6,153,328); 09/521,392; 09/573,438; and 09/627,742. The decisions on the petitions for these related applications are attached hereto as Exhibit B.

### CONCLUSION

For all the foregoing reasons, this Petition is proper in all respects, and should be granted.

There is no Petition fee required pursuant to 37 C.F.R. §1.102(c) and/or MPEP §708.02, and therefore no payment is enclosed herewith. However, if a fee is in fact due, the Commissioner is authorized to charge the same to our Deposit Account No. **08-3038**, referencing Docket No. 04813.0013.NPUS00.

HOWREY SIMON ARNOLD & WHITE, LLP



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Robert C. Laurenson  
Reg. No. 34,206

Date: March 14, 2002

HOWREY SIMON ARNOLD & WHITE, LLP  
Box No. 34  
301 Ravenswood Avenue  
Menlo Park, CA 94025  
Facsimile: (650) 463-8400  
Telephone: (949) 759-5269



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Martín de T. Pinto et al.

Application No.: 10/060,965

Filed: October 19, 2001

For: RECIRCULATING ANODE

Group Art Unit: To be assigned

Examiner: To be assigned

**DECLARATION OF ASSIGNEE IN SUPPORT OF  
PETITION TO MAKE SPECIAL UNDER 37 C.F.R. §1.102(c)**

Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

1. I, Jeffrey A. Colborn, am Chairman and Chief Executive Officer of Metallic Power, Inc., the assignee of the above-captioned patent application. In my capacity as Chairman/CEO of Metallic Power, I believe that the invention claimed in the above-captioned patent application will (a) materially enhance the quality of the environment of mankind by contributing to the restoration or maintenance of the basic life-sustaining natural elements, namely air, water and soil, and (b) materially contribute to more efficient utilization and conservation of energy resources. The basis for my belief is as follows:

2. The invention relates to a refuelable and/or regenerative fuel cell, which can replace diesel generators as back-up power sources for buildings when used as a back-up power device as described in the invention. Diesel generators generate a substantial amount of air pollution. This has motivated some cities, for example in California, to impose a moratorium on permits for diesel generators as back-up power sources for buildings. This is particularly remarkable given that California in general, and the Bay Area in particular, has

recently experienced rolling blackouts. Obviously, these cities are greatly concerned that the risk to the environment posed by a large number of these diesel generators coming on line at the same time, such as could occur if an area was subject to a rolling blackout, is serious and substantial. Given the serious disruption to a city caused by a rolling blackout, and the lack of other alternatives that are as attractive as refuelable and/or regenerative fuel cells in terms of cost, efficiency and environmental impact, it stands to reason then that these cities would be highly motivated to deploy refuelable and/or regenerative fuel cells as back-up power sources in lieu of diesel generators. By replacing polluting diesel generators, the refuelable and/or regenerative fuel cell is expected to materially enhance the quality of the environment by contributing to the restoration and maintenance of the air.

3. Diesel generators also consume quite a bit of lubricating oil given that they must have their oil changed quite often. The disposal of this oil can be extremely harmful to the environment as one quart of motor oil can render an entire reservoir unpalatable for drinking. By replacing diesel generators, the refuelable and/or regenerative fuel cell is also expected to eliminate the need for this oil, and therefore materially enhance the quality of the environment by contributing to the restoration and maintenance of water.

4. The refuelable and/or regenerative fuel cell is also expected to replace lead/acid batteries as a power source because of the significant environmental damage caused by the manufacture of lead/acid batteries, damage caused particularly by the mining, processing and recycling of lead, and the lack of any other alternatives as attractive as refuelable and/or regenerative fuel cells. By replacing lead/acid batteries, the refuelable and/or regenerative fuel cell is also expected to materially enhance the quality of the environment by reducing the damage to the earth caused by the mining of lead, and contributing to the restoration and maintenance of the soil.

5. The refuelable and/or regenerative fuel cell will also enable solar/wind power to replace power plants as the primary energy source for a substantial number of homes and businesses. The reason is that refuelable and/or regenerative fuel cells allow for the storage of energy in the form of metal fuel and fresh reaction solution or hydrogen, depending on the

type of refuelable and/or regenerative fuel cell. These fuels can be reprocessed from spent reaction products whenever the solar or wind power is available. Later, when power is needed for a house or business, this power can be provided by the refuelable and/or regenerative fuel cell replenished by the reprocessed fuel and fresh reaction solution. Once enabled, solar/wind power is expected to replace power plants as the primary energy source for a substantial number of homes and businesses because it does not release pollutants into the air, is more efficient and less costly.

6. Power plants function by converting energy released through the burning of fossil fuels into power. The burning of fossil fuels in turn releases a substantial amount of pollutants into the air. By enabling solar/wind power to replace power plants as the primary energy source for a substantial number of homes and businesses, the refuelable and/or regenerative fuel cell is expected to materially enhance the quality of the environment by contributing to the restoration or maintenance of the air.

7. The invention also relates to a refuelable and/or regenerative fuel cell system in which a refuelable and/or regenerative fuel cell is interfaced to the power grid and to an energy controller in a home or business which controls one or more loads, e.g., elevators, lights, air conditioners, household appliances such as refrigerators, etc. During off-peak hours, when energy from the power grid is cheapest, the system may draw energy from the power grid in order to reprocess spent reaction solution and reaction products into metal fuel and fresh reaction solution. In addition, whenever energy is needed to drive the loads, the energy controller selectively draws energy from the refuelable and/or regenerative fuel cell to drive the one or more loads in an energy efficient manner. For example, the controller can automatically turn off lights and air conditioners during off-business hours and power them up again during business hours. The ability of the system to store energy in the form of the fuel allows the two processes --the process of reprocessing spent reaction products and the process of driving one or more loads--to be decoupled from one another, i.e., performed substantially independently of one another.

8. The system is expected to increase the efficiency of the power grid in terms of wattage out divided by quantity of fossil fuel burned. The reason is that the system, because of its capability to store energy in the form of electrochemical fuel, and to decouple the processes of reprocessing spent reaction products and driving loads, is expected to result in more frequent use of base load power plants and less frequent use of peaking plants to drive the power grid. Since base load plants are more efficient than peaking plants, e.g., 60 % vs. 35 %, the result is an overall increase in the efficiency of the power grid.

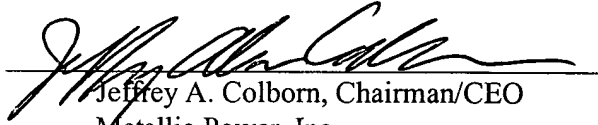
9. To explain why this is so, consider a scenario such as a hot day where the demand exceeds the supply for power from base load power plants. Currently, the response to this scenario will be to power up the less efficient peaking plants to fill the gap between demand and supply. However, with the refuelable and/or regenerative fuel cell system, the response to this scenario is expected to be the use of the refuelable and/or regenerative fuel cell to fill the gap between demand and supply.

10. The increased efficiency of the power grid resulting from use of the system is expected to translate into the introduction of less pollutants into the air since less fossil fuel needs to be burned to provide the same power output. Consequently, the system is expected to materially enhance the quality of the environment by contributing to the restoration and maintenance of the air.

11. The increased efficiency of the power grid also means that the refuelable and/or regenerative fuel cell system is expected to materially contribute to the reduction of energy consumption in combustion systems, industrial equipment, household appliances, etc.

12. All statements made on the basis of personal knowledge are true, and all statements made on the basis of information and belief are believed to be true. Further, these statements are made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: February 19, 2002

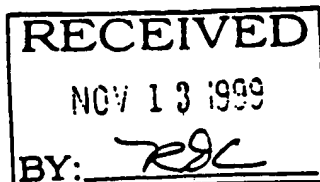
  
Jeffrey A. Colborn, Chairman/CEO  
Metallic Power, Inc.



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
ASSISTANT SECRETARY AND COMMISSIONER  
OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231



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In re application of  
Bernardo A. Gutierrez et al

Serial No.: 09/353,422  
Filed: July 15, 1999  
For: PARTICLE FEEDING APPARATUS  
FOR ELECTROCHEMICAL POWER  
SOURCE AND METHOD OF MAKING  
SAME

DECISION ON PETITION  
TO MAKE SPECIAL  
UNDER M.P.E.P. 708.02 V

This is a decision on the petition filed on July 15, 1999, requesting that the above identified application be granted Special Status under Sections 37 C.F.R. 1.102 and M.P.E.P 708.02 V.

The petition has been considered and found to comply with the requirements set forth under the above noted section.

The petition is GRANTED.

*Richard V. Fisher*

Richard V. Fisher  
Director, Technology Center 1700  
Chemical and Materials Engineering

Richard D. Clarke  
P.O. Box 1666  
Spring Valley, CA 91979-1666



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND  
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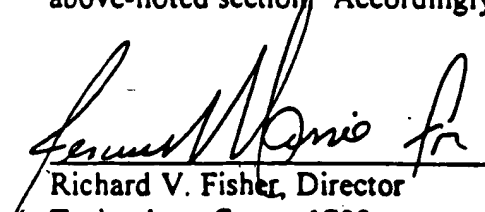
WASHINGTON, D.C.

In re Application of  
Jeffrey A. Colborn  
Serial Number: 09/449,176  
Filed: November 24, 1999  
For: SYSTEM AND METHOD FOR PREVENTING  
THE FORMATION OF DENDRITES IN A  
METAL/AIR FUEL CELL, BATTERY OR METAL  
RECOVERY APPARATUS

DECISION  
ON  
PETITION

This is in response to the petition filed November 24, 1999, requesting that the above-identified application be granted Special Status under Section 708.02 (V) of the MPEP.

The petition has been considered and found to comply with the requirements set forth under the above-noted section. Accordingly the petition is granted.

  
Richard V. Fisher, Director  
Technology Center 1700  
Chemical and Materials Engineering

Robert C. Laurenson  
Howrey, Simon, Arnold & White, LLP  
Box No. 34  
1299 Pennsylvania Avenue, NW  
Washington, DC 20004-2402

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In re Application of  
Martin Pinto et al  
Serial Number: 09/521,392  
Filed: March 8, 2000  
For: REFUELABLE ELECTROCHEMICAL POWER :  
SOURCE CAPABLE OF BEING MAINTAINED :  
IN A SUBSTANTIALLY CONSTANT FULL :  
CONDITION AND METHOD OF USING THE :  
SAME :

WASHINGTON, D.C. :

DECISION  
ON  
PETITION

This is in response to the petition filed March 8, 2000, requesting that the above-identified application be granted Special Status under Section 708.02 (V) of the MPEP.

The petition has been considered and found to comply with the requirements set forth under the above-noted section. Accordingly the petition is granted.

*Richard V. Fisher*

Richard V. Fisher, Director  
Technology Center 1700  
Chemical and Materials Engineering

Robert C. Laurenson  
Howrey, Simon Arnold & White, LLP  
Box No. 34  
1299 Pennsylvania Avenue, N.W.  
Washington, DC 20004-2402

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APP

In re application of  
Martin Pinto  
Stuart Smedley  
Jeffrey Colborn  
James Evans

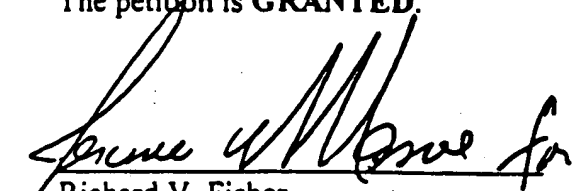
Serial No.: 09/573,438  
Filed: May 16, 2000  
For: ELECTROLYZER AND METHOD  
OF USING THE SAME

DECISION ON PETITION  
TO MAKE SPECIAL  
UNDER M.P.E.P. 708.02 V

This is a decision on the petition filed on August 14, 2000, requesting that the above identified application be granted Special Status under Sections 37 C.F.R. 1.102 and M.P.E.P 708.02 V.

The petition has been considered and found to comply with the requirements set forth under the above noted section.

The petition is GRANTED.

  
Richard V. Fisher  
Director, Technology Center 1700  
Chemical and Materials Engineering

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WASHINGTON, D.C.

Howrey Simon Arnold & White LLP  
Box 34  
1299 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004

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Robert C. Laurenson  
Howry Simon Arnold & White, LLP  
Box No. 34  
1299 Pennsylvania Avenue, N.W.  
Washington, D.C. 20004-2402

WASHINGTON, D.C.

JUN - 8 2001

In re Application of: Jeffrey A. Colborn  
Application No.: 09/627,742  
Filed: July 28, 2000  
For: SYSTEM AND METHOD FOR  
POWER MANAGEMENT

DECISION ON PETITION  
TO MAKE SPECIAL

This is a decision on the request for reconsideration, filed May 18, 2001 on the petition filed October 3, 2000 under 37 C.F.R. §102(c) and M.P.E.P. § 708.02(V): Environmental Quality, to make the above-identified application special. The request for reconsideration also includes an assertion that this application meets the criteria to be made special under M.P.E.P. § 708.02(VI): Energy.

A grantable petition under 37 C.F.R. §1.102(c), and M.P.E.P. §708.02, Section (VI), must be accompanied by a showing that the application is for an invention which materially contributes to (A) the discovery or development of energy resources, or (B) the more efficient utilization and conservation of energy resources. Examples of inventions in category (A) would be developments in fossil fuels (natural gas, coal, and petroleum), nuclear energy, solar energy, etc. Category (B) would include inventions relating to the reduction of energy consumption in combustion systems, industrial equipment, household appliances etc. Such petitions should be accompanied by statements under 37 C.F.R. § 1.102 by the applicant, assignee, or an attorney/agent registered to practice before the Office explaining how the invention materially contributes to category (A) or (B) set forth above. No fee for such a petition is required. (See 37 C.F.R. §1.102(c) and M.P.E.P. §708.02(VI).)

Petitioner's submissions meet the criteria set out above with respect to M.P.E.P. §708.02(VI)(B), reduction of energy consumption. Accordingly, the petition is GRANTED.

The application file is being forwarded to the Examiner of Record for expedited examination.

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6/14/01

A handwritten signature in dark ink, appearing to read 'Robert A. Weinhardt', is written over a horizontal line.

Robert A. Weinhardt  
Special Program Examiner  
Technology Center 2100  
Computer Architecture, Software,  
& Electronic Commerce  
703-305-9780